No chemical tests were made for the presence of cyanide.

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A NEW MITOTIC STRUCTURE

IN the *Journal of the Royal Microscopical Society,* April, 1915, Mr. E. Sheppard, F.R.M.S., published a paper entitled "A New Mitotic Structure Disclosed as the Result of New Technique." He describes at the ends of the dividing chromosomes "bead-like chromatin extensions" where the spindle fibers are attached. I want to draw his attention to the fact that these structures are well known to cytologists and that there is no special technique needed for their disclosure. My own experience is that they are most extremely developed in the maturation divisions of Trematodes. I have figured them in my paper "Die Chromatinreifung der Geschlechtszellen des Zoogonus mirus, etc.," *Arch. Zellforschg.,* Vol. 2, 1908. Better figures are found in Grégoire's publication, based on the same slides "La réduction dans le Zoogonus mirus, etc.," *La Cellule,* 25, 1909. He calls these structures "renflement d'insertion." For *Fasciola hepatica* they are described by A. Schellenberg, "Ovogenese, Eireifung und Befruchtung von *Fasciola hepatica* Arch. Zellforschg.," Vol. 6, 1910, and I know their presence in some other trematodes.

R. GOLDSCHMIDT

A METHOD OF MAINTAINING A SUPPLY OF PROTOZOA FOR LABORATORY USE

ONE of the difficulties that confront the teacher of elementary biology, especially in those institutions where a large number of students must be provided for, is that of obtaining a satisfactory supply of protozoa, especially of such forms as *Ameba, Euglena* and *Paramecium.* I have overcome this difficulty in such a simple manner that it may be worth while to state briefly how I keep a supply of these forms on hand. Four years ago I obtained from a pond some water and rubbish in which were present a few individuals of *Ameba, Euglena* and *Paramecium.* I prepared a culture made by boiling a handful of hay in about a half-gallon of water until the liquid assumed a dark brown color. This with a part of the hay was placed in a two-quart, cylindrical battery jar and permitted to stand open in the laboratory for twenty-four hours. The jar was then covered loosely with a pane of glass and set aside till bacteria had formed a scum over the surface of the liquid. The pond water and rubbish were then added and the jar still covered was set in a north window of the laboratory.

In a short time an abundance of *Paramecia* was present in the culture. The *Euglenæ* and *Amebæ* multiplied more slowly, but at the end of six months the jar was swarming with these two forms, while the *Paramecia* had decreased in number and were to be found chiefly at the bottom of the jar. Such a culture will usually afford a good supply for a year but I prepare a new culture every six months and stock it from the old one. By this method I have for the past four years kept on hand an abundant supply of these protozoa without going outside of my laboratory. At the opening of college I have on hand a culture newly prepared, in order to have an abundance of *Paramecia,* a second culture six months old and a third one year old. The hay infusion and the decomposing vegetable matter in the jar seem to furnish suitable food for the bacteria and *Euglena; Paramecium* feeds on the bacteria and *Ameba* on the encysted *Euglena.* Rotifers and a host of other protozoan forms abound in the cultures but the three forms most used in laboratory exercises are always present in abundance. In my laboratory I find it necessary to keep the culture in a north window; direct sunlight is not only not necessary but decidedly harmful, due probably to the heat rather than the light.

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QUOTATIONS

SCIENCE IN NATIONAL AFFAIRS

WE printed last week a valuable address by Professor J. A. Fleming on "Science in the